

Exhibit A

# The Wiley Dictionary of Civil Engineering and Construction

*Compiled and Edited by*

*L. F. Webster*



A Wiley-Interscience Publication

*John Wiley & Sons, Inc.*

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cards or waste streams that are suitable in their existing form.

**USC** *Abbreviation for:* under separate cover.

**USEFUL LIFE** Period over which a building is expected to remain viable.

**USER 1.** Intended owner of a project or occupant of a building constructed or renovated as the result of a contract for work; **2.** Individual having access to or control over equipment.

**USER NEEDS** *See* Requirements.

**USS** *Abbreviation for:* ultimate shear strength; United States standard.

**USURY** Rate of interest charged on a loan greater than that permitted by law.

**U-TIE** Heavy wire wall tie in the shape of a U.

**util** *Abbreviation for:* utilities; utility; utilization.

**UTILITY** Service provided by a public agency, can include electrical energy, potable water, sewerage, gas, telephone, or cable-vision.

**UTILITY-CONNECTED SYSTEM** Natural energy system (wind power, photovoltaic cells) that is connected to the utility grid, enabling the system to draw power from a public system and, if permitted, to pass excess electricity into the public system.

**UTILITY CRANE** Mobile crane designed to perform a range of tasks.

**UTILITY GRADE** *See* Lumber grades.

**UTILITY GRID** System of electrical generating facilities and transmission lines developed and maintained by a utility company.

**UTILITY PALLET** *See* Forks.

**UTILITY ROOM** Space in a dwelling where the heating plant, laundry equipment, water heater, and other utilities are grouped.

**UTILITY/SERVICE TRUCK** *See* Truck.

**UTILIZATION EQUIPMENT** Equipment that utilizes electric energy for mechanical, chemical, heating, lighting, or similar useful purposes.

**UTILIZATION STANDARD** Utilization limit (stump height and top diameter inside bark) that defines the trees considered commercially salable, and therefore the dimensions of all trees that must be cut and removed from Crown land harvesting operations. *See also* Close utilization.

**UTILIZATION SYSTEM** System that provides electric power and light for employee workplaces, and includes the premises wiring system and utilization equipment.

**UTS** *Abbreviation for:* ultimate tensile strength.

**UV** *Abbreviation for:* ultraviolet.

**U-VALUE 1.** Overall coefficient of heat transmission; **2.** Standard measure of the rate at which heat will flow through a unit area of a material of known thickness.

**UV STABILIZER** Chemical compound that, when mixed with a thermoplastic, selectively absorbs ultraviolet light rays.

*OWN* *Abbreviation for:* owner.

**UYP** *Abbreviation for:* upper yield point.

Exhibit B

# **Glossary**

## **Water and Wastewater Control Engineering**

**Third Edition**

*Prepared by Joint Editorial Board Representing*

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American Society of Civil Engineers  
American Water Works Association  
Water Pollution Control Federation

Bob G. Rogers, Chairman  
William T. Ingram  
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**user**—The party who is billed, usually for sewer service from a single connection; has no reference to the number of persons served. Also called customer.

**user charge**—Charge made to users of water and wastewater systems for services supplied. See sewage charge, sewage rate.

**utility**—A public or private concern engaged in the performance of some useful service, such as furnishing water, gas, electricity, or sewer facilities. Such a concern usually has a monopoly position in providing its service to a defined geographical area.

**utilization factor**—(1) The ratio, usually expressed decimally, of the water flowing in a stream which is used for power development to the quantity which is available for use; the latter is limited by the flow as indicated by the flow-duration curve, and also, at higher stages, by the capacity of the water wheels. (2) The factor representing the ratio of net to gross power.

**vacuum breaker**—A device for relieving a vacuum or partial vacuum formed in a pipeline, thereby preventing backsiphonage.

**vacuum deaeration**—Equipment operating under vacuum to remove dissolved gases from liquid.

**vacuum filter**—(1) A filter used to accomplish sludge dewatering and consisting of a cylindrical drum mounted on a horizontal axis, covered with filter media, and revolving partially submerged in a dilute sludge mixture. A vacuum is maintained under the media for the larger part of a revolution to extract moisture. The dewatered cake formed is scraped off mechanically for disposal. See also vacuum filtration. (2) A diatomaceous earth water filter open to the atmosphere and on the inlet side of a pump.

**vacuum filtration**—A usually continuous filtration operation that is generally accomplished on a rotating cylindrical drum. As the drum rotates, part of its circumference is subject to an internal vacuum that draws sludge to the filter medium and removes water for subsequent treatment. The dewatered sludge cake is released by a scraper.

**vacuum pump**—(1) A pump for creating a partial vacuum in a closed space. (2) A pump in which water is forced up a pipe by the difference of pressure between the atmosphere and a partial vacuum. (3) An air compressor used in connection with steam condensers and for improving the suction head on other pumps; the compressor takes its suction at low absolute pressure, performs a large number of compressions, and generally discharges at atmospheric pressure.

**vacuum valve**—An air valve that permits ingress of air into an empty pipe to counteract a vacuum, and that permits accumulated air to escape. Also called air and vacuum valve.

**vadose**—In geology, pertaining to the circulation of liquids in the earth's

**vadose water**—A in the capillary mediate water

**vadose-water disc** of saturation.

**valence**—An into which one ato valence) or the place (positive

**valley fill**—The of its formation

**valley spring**—A the water table

**valley storage**—( natural storage it has overflow main channel ( (lateral storage

**valley train**—Out glacier.

**valve**—(1) A dev direction of the fitted to the sl through which

**valve box**—A me rising to the gr closing the val dirt and debris.

**valve key**—A me long handle for

**valve(s)**—See follo lief, altitude-c ball, bib, blow float, flow-con insert, mud, pressure-reduci quick-operating stop, straight-w

**valve stem**—The rod lifts and pr

**valve tower**—A h

Exhibit C

# Dictionary of Architecture & Construction

THIRD EDITION



# DICTIONARY OF ARCHITECTURE & CONSTRUCTION

2200 illustrations

Third Edition

Edited by

**Cyril M. Harris**

Professor Emeritus of Architecture  
Columbia University

McGraw-Hill

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## line drop

**mortar** A mortar made by mixing lime and sand; now little used because of its hardening.

**paste** Lime soaked with water to form a

**plaster** A base-coat plaster consisting of and aggregate.

**putty, plasterer's putty** A hydrated which has been slaked with sufficient water to form a thick paste; used in plastering.

**rock** A natural, consolidated or partially consolidated form of limestone; mostly of calcium carbonate, but containing some silica.

**stone** Rock of sedimentary origin composed principally of calcite or dolomite or both; building stone or crushed-stone aggregate burnt to produce lime.

**wash** A mixture of lime and water; used on roofs, walls, and other surfaces.

A mixture of lime and water; used to coat internal and external surfaces; a **whitewash**.

See **basswood**.

**control** A safety device on a boiler, refrigerator, air-conditioning system which shuts down the system and actuates alarms when unsafe conditions are detected. Also see **limit switch**.

**design** Structural design based on any limit of usefulness, such as a plastic limit, elastic limit, fatigue limit, or yield point limit.

**noncombustible material** A building material which does not comply with the NFPA definition of **noncombustible**. The materials in this classification must have a potential heat value of 3500 Btu per lb (101 kJ/kg); in addition, they must comply with at least one other applicable requirement of the applicable NFPA standard.

**special-purpose fuse** (usually of high interrupting rating) designed to protect a circuit or equipment from the effects of an available short-circuit current by limiting the amount of current permitted to flow

**proportionality** See **proportional**

An electric switch, operated by a machine or by the movement of

the car which it drives, which alters or controls the electric circuit associated with the machine, e.g., a switch which slows down and stops an elevator car or dumbwaiter car automatically at or near the top or bottom terminal landing; operates independently of the device which normally controls movement of the car.

**limonite** A naturally occurring mineral which is used in high-density concrete because of its high density and water content, making it effective in radiation shielding.

**LIN** On drawings, abbr. for "linear."

**linden** See **basswood**.

**line** 1. A system of cables and/or wires (along with poles to support them) used for the general distribution of electricity. 2. A flexible cable, chain, rope, or the like.

**linear diffuser, slot diffuser, strip diffuser** An air outlet where the ratio of length to width of the outlet usually exceeds 10:1; the width of the outlet usually is not greater than 4 in. (10 cm).

**linear light source** A light source whose dimension along a line is significantly greater than its other dimensions as, for example, a line of fluorescent lamps.

**linear packer** An automatic refuse compactor similar to a **carousel packer**, but the bags, contained on a linear carriage, move along a straight line; especially suitable for use in very narrow locations. (See illustration p. 552.)

**linear plan** A house plan that is either one room wide and two or more rooms deep, or one room deep and two or more rooms wide.

**linear prestressing** Prestressing as applied to linear structural members, such as **reinforced concrete** beams or columns.

**linear-type heat detector** In a fire detection system, a heat sensor that can be activated anywhere along its length; employs a heat-sensitive cable whose electrical conductivity depends significantly on temperature. (See illustration p. 552.)

**line drilling** In rock excavation by blasting, drilling a series of closely spaced holes, about 4 in. (10 cm) apart, at the perimeter of the cut, so as to break the rock along a line.

**line drop** The decrease in voltage in the conductors of an electric circuit resulting from their resistance.

## U-tie

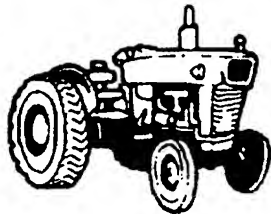
**U-tie** A U-shaped heavy wire used as a wall tie.

**utility** See **public utility**.

**utility pole** An outdoor pole installed by a telephone or electric utility company for the support of conductors and other electric or telephone equipment.

**utility sheet** Mill-finished metal sheeting; available in a variety of sizes suitable for general building construction.

**utility tractor** A low- to medium-horsepower tractor; used primarily for pulling auxiliary



utility tractor

equipment, but also used in construction with attachments for trenching, dozing, breaking, etc.

**utility vent** A vent, 1 which rises well above the highest water level of a fixture and then turns downward before it connects to the main vent or stack vent.

**utility window** A low-cost hot-rolled steel window for use in basement areaways, garages, shops, and the like; has a hopper light over a fixed light.

**utilization equipment** Any equipment which utilizes electric energy for mechanical, heating, lighting, or similar useful purposes.

**utilization factor** 1. The maximum demand of a system (or part of a system) divided by its rated capacity. 2. See **coefficient of utilization**.

**U-trap** A U-shaped running trap.

**U-tube** Same as **manometer**.

**U-value** See **thermal transmittance**.

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## public stem

foyer or lobby. 2. In some codes, an area or piece of land legally designated for public use.

**public system** A water or sewerage system which is owned and operated by a local governmental authority or by a local utility company controlled by a governmental authority.

**public-use area** Rooms or spaces that are available to the general public.

**public utility** A public service such as water, gas, electricity, telephone, sewers, etc.

**public water main** A water-supply pipe for public use, controlled by public authority.

**public way** Any parcel of land unobstructed from the ground to the sky, appropriated for the free passage of the general public; a minimum width usually is specified by code.

**pudding stone** A composite rock containing rounded pebbles or gravel embedded in a siliceous matrix; see **cyclopean concrete**.

**puddle** To compact loose soil by first soaking it and then permitting it to dry.

**puddle, clay puddle, puddling** Clay to which a little water has been added and which then has been tempered, to make it homogeneous and to increase its plasticity; used to prevent the passage of water.

**puddled adobe construction** A primitive wall construction once used in what is now the American Southwest; built up of successive layers of an adobe mixture containing enough water so that it could be poured. The first layer was poured directly on the ground and allowed to dry before the next layer was poured on top of it; successive layers were built up until the wall reached its full height. Such walls eroded easily.

**puddle weld** A type of **plug weld** for joining two sheets of light-gauge material; a hole, burned in the upper sheet, is filled with a puddle of weld metal to fuse the upper sheet to the lower.

**puddling** 1. Inducing compaction in mortar or concrete by the use of a tamping rod. 2. See **puddle**.

**pueblo** Communal dwelling, usually of stone or adobe, built by the Pueblo Indians of southwestern U.S.A.; built in excavated hollows in the faces of cliffs or on the plains, valleys, or mesas. Usually entered by means of ladders.

**pueblo architecture** Communal housing, as much as five stories high, containing a large

number of individual family units, built by isolated tribes of New Mexico and Arizona as "Pueblo Indians." Buildings are constructed of adobe or a combination of adobe and stone and have massive exterior walls coated with adobe plaster; windows of small size; stepped-back roof lines; flat roofs supported by interior beams; interior walls finished with adobe plaster. Entry to the rooms through a hatchway in the roof, reached by a ladder.

**Pueblo Revival, Pueblo style** In the southwestern United States, primarily from about 1910 to 1940, an architectural mode that suggests pueblo architecture; usually a mixture of **Spanish Colonial Revival** and **Arts and Crafts Revival**. Such buildings are usually characterized by: earth-colored stucco walls that have a low-profile, adobe-like appearance; rounded corners at wall intersections; occasional arched windows; brick flooring on the patios; stepped-back roof lines in the style of pueblo architecture; parapeted flat roofs with waterspouts; rows of wood beams exposed through the exterior walls, providing support for the roof; casement windows that are recessed, with roughly hewn lintels and transoms; and arched doorways.

**puff pipe** A short vent pipe on the top of a trap, to prevent siphonage.

**pugging** Heavy loose material, such as sand, placed as a filler between the joints of ceiling assemblies; formerly used to improve sound insulation between the rooms below the floor.

**pug mill** A machine for mixing and grinding clay.

**pug-mill brick** Same as **adobe** or **clay brick**.

**pull** A handle for opening a door, drawer, etc.

**pull box** In electric wiring, a box (usually with a removable cover) that is inserted in the runs of raceway to facilitate the pulling of conductors through the raceway.

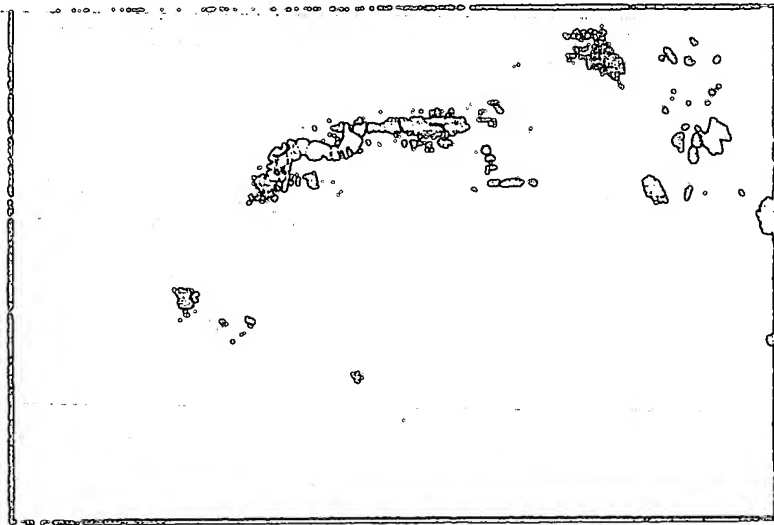
**pull-chain operator** A chain used to operate the amount of opening of a device, such as a damper, 1.

**pulldown handle** A pull on the upper sash of a double-hung window; fixed to the sash.

**pulley** 1. A wheel having a grooved rim for a rope or cable to run over.

Exhibit D

A DICTIONARY OF  
*Environmental  
& Civil  
Engineering*



Len Webster



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## **UPTAKE**

**UPTAKE** Sorption of a test substance into and onto aquatic organisms during exposure.

**UPTAKE PHASE** Time during a test when test organisms are being exposed to the test material.

**UPTIME** Period during which a machine or equipment is available.

**UPWARD-FLOW FILTER** Water filter through which the water flows from bottom to top.

**UPWELLING** Sudden upward flow of water from a subsurface current.

**URANIUM** Principal radioactive element, U, used in the production of nuclear energy.

**URANIUM ENRICHMENT** Process for the improvement of the properties of natural uranium involving the removal of the diluent uranium-238, which comprises 99.28% of the natural material, increasing the concentration of uranium-235.

**URBAN** Of, having to do with, or in cities or towns.

**URBANIZATION** Movement of large numbers of people from rural to urban areas.

**URBAN RENEWAL** Program, policy, or the process of rehabilitating or replacing run-down or substandard buildings in a city, especially in the downtown core.

**URBAN SPRAWL** Uncontrolled spread of urban development into rural areas.

**URINAL** Plumbing fixture used for urinating.

**USABLES** Secondary materials recovered from discards or waste streams that are salable in their existing form.

**USEFUL LIFE** Period over which a structure or machine is expected to remain viable.

**USEFUL STORAGE** Water that can be withdrawn from a storage facility; the volume available between the top of gates and minimum drawdown level.

**USER** Person, lot, parcel of land, building, premises, municipal corporation or other political subdivision that discharges, causes or permits the discharge of wastewater into a sewage system.

**UTILITY** Service provided by a public agency, which can include electrical energy, potable water, sewerage, gas, telephone, or cablevision.

**UTILIZATION FACTOR** Ratio of the total availability of something to the portion that is used.

**UTILITY-CONNECTED SYSTEM** Natural energy system (wind power, photovoltaic cells) that is connected to the utility grid, enabling the system to draw power from a public system and, if permitted, to pass excess electricity into the public system.

# **V**

**VACUUM** Air pressure.

**VACUUM BREAK** development of a vacuum in a pipe carrying fluids and thus

**VACUUM DEAIRING** erating under a vacuum to remove dissolved

**VACUUM FILTER** tating on a horizontal filter cloth behind maintained, and passed sludge or a through the filter sludge cake is screened

**VACUUM GAUGE**

**VACUUM LOAD** truck body used for cleaning, leaf picking and industrial applications

**VACUUM PUMP**

**VACUUM RELIEF**

**VADOSE ZONE** the surface and the water under atmospheric pressure.

**VADOSE WATER** ated ground above

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